WE CLAIM:

1. A circuit for reducing oversaturation effects within CMOS image sensors, comprising:

a first pixel that is configured to store during an initialization period a charge that is associated with a first reference voltage, to integrate during an exposure period the stored charge such that a voltage associated with the stored charge is decreased in response to received light, and to provide a first output signal that is associated with a remaining stored charge of the first pixel;

a detector that is configured to determine whether an oversaturation condition exists at a detection time that is after the initialization period and that is before the end of the integration period by monitoring a decrease in the first output signal that is associated with the remaining stored charge of the first pixel; and

a first sampler that is configured to sample after the exposure period the first output signal to produce a first pixel sampled quantity that is associated with a first pixel within an image, sample in response to the detector determining that an oversaturation condition exists a second reference voltage after the detection time to produce a first reference sampled quantity, sample in response to the detector determining that an oversaturation condition does not exist the first output signal to produce the first reference sampled quantity, and to subtract the first pixel sampled quantity from the reference sampled quantity to produce a first pixel value for the image.

2. The circuit of Claim 1, wherein the detector is further configured to compare the first output signal with a third reference voltage.

3. The circuit of Claim 2, wherein the third reference voltage is fixed.

4. The circuit of Claim 2, wherein the third reference voltage is programmable.

5. The circuit of Claim 1, wherein the detector is further configured to monitor the voltage level of the first reference voltage.

6. The circuit of Claim 1, wherein the first sampler is coupled to a first column line.

7. The circuit of Claim 6, further comprising a second sampler that is configured to sample after the exposure period a second output signal produced by a second pixel that is associated with a second column line to produce a second pixel sampled quantity that is associated with a second pixel within an image, sample in response to the detector determining that an oversaturation condition exists a second reference voltage after the detection time to produce a second reference sampled quantity, sample in response to the detector determining that an oversaturation condition does not exist the second output signal to produce the second reference sampled quantity, and to subtract the second pixel sampled quantity from the second reference sampled quantity to produce a second pixel value for the image.

8. A method for reducing oversaturation effects within CMOS image sensors, comprising:

storing in a first pixel during an initialization period a charge that is associated with a first reference voltage;

integrating during an exposure period the stored charge such that a voltage associated with the stored charge is decreased in response to received light;

providing a first output signal that is associated with a remaining stored charge of the first pixel;

determining whether an oversaturation condition exists at a detection time that is after the initialization period and that is before the end of the integration period by monitoring a decrease in the first output signal that is associated with the remaining stored charge of the first pixel;

sampling after the exposure period the first output signal to produce a first pixel sampled quantity that is associated with a first pixel within an image;

sampling in response to the determination that an oversaturation condition exists a second reference voltage after the detection time to produce a first reference sampled quantity;

sampling in response to the detector determining that an oversaturation condition does not exist the first output signal to produce the first reference sampled quantity; and

subtracting the first pixel sampled quantity from the reference sampled quantity to produce a first pixel value for the image.

9. The method of Claim 8, wherein the oversaturation condition is determined by comparing the first output signal with a third reference voltage.

10. The method of Claim 9, wherein the third reference voltage is fixed.

11. The method of Claim 10, wherein the third reference voltage is programmable.

12. The method of Claim 8, wherein the oversaturation condition is determined by monitoring the voltage level of the first reference voltage.

13. The method of Claim 8, further comprising applying the first output signal to a first column line.

14. The method of Claim 13, further comprising:

sampling after the exposure period a second output signal produced by a second pixel that applies the second output signal to a second column line to produce a second pixel sampled quantity that is associated with a second pixel within an image;

sampling in response to the determination that an oversaturation condition exists a second reference voltage after the detection time to produce a second reference sampled quantity;

sampling in response to the determination that an oversaturation condition does not exist the second output signal to produce the second reference sampled quantity; and

subtracting the second pixel sampled quantity from the second reference sampled quantity to produce a second pixel value for the image.

15. A circuit for reducing oversaturation effects within CMOS image sensors, comprising:

means for storing in a first pixel during an initialization period a charge that is associated with a first reference voltage;

means for integrating during an exposure period the stored charge such that a voltage associated with the stored charge is decreased in response to received light;

means for providing a first output signal that is associated with a remaining stored charge of the first pixel;

means for determining whether an oversaturation condition exists at a detection time that is after the initialization period and that is before the end of the integration period by monitoring a decrease in the first output signal that is associated with the remaining stored charge of the first pixel;

means for sampling after the exposure period the first output signal to produce a first pixel sampled quantity that is associated with a first pixel within an image;

means for sampling in response to the determination that an oversaturation condition exists a second reference voltage after the detection time to produce a first reference sampled quantity;

means for sampling in response to the detector determining that an oversaturation condition does not exist the first output signal to produce the first reference sampled quantity; and

means for subtracting the first pixel sampled quantity from the reference sampled quantity to produce a first pixel value for the image.

16. The circuit of Claim 15, wherein the oversaturation condition is determined by comparing the first output signal with a third reference voltage.

17. The circuit of Claim 16, wherein the third reference voltage is fixed.

18. The circuit of Claim 16, wherein the third reference voltage is programmable.

19. The circuit of Claim 15, further comprising means for applying the first output signal to a first column line.

20. The circuit of Claim 19, further comprising:

means for sampling after the exposure period a second output signal produced by a second pixel that applies the second output signal to a second column line to produce a second pixel sampled quantity that is associated with a second pixel within an image;

means for sampling in response to the determination that an oversaturation condition exists a second reference voltage after the detection time to produce a second reference sampled quantity;

means for sampling in response to the determination that an oversaturation condition does not exist the second output signal to produce the second reference sampled quantity; and

means for subtracting the second pixel sampled quantity from the second reference sampled quantity to produce a second pixel value for the image.